

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

- 1 1. (Cancelled)
- 1 2. (Previously Presented) The method of claim 5, wherein the components include a
2 second packet-based network, the method further comprising assigning performance parameters
3 for the second packet-based network.
- 1 3. (Previously Presented) The method of claim 5, wherein assigning the
2 performance parameters further includes assigning a packet delay parameter.
- 1 4. (Previously Presented) The method of claim 5, wherein assigning the
2 performance parameters further includes assigning a packet loss parameter.
- 1 5. (Previously Presented) A method of determining performance of a
2 communications system, comprising:
 - 3 storing representations of plural components of the communications system, the
4 components including a first packet-based network and at least one network device;
 - 5 assigning performance parameters for each of the components, the performance
6 parameters comprising at least a first performance parameter and a second performance
7 parameter;
 - 8 combining the first performance parameters of respective components to derive an
9 overall first performance parameter;
 - 10 combining the second performance parameters of respective components to derive
11 an overall second performance parameter; and
 - 12 deriving a quality indication of the communications system based at least on the
13 overall first and second performance parameters,
 - 14 wherein assigning the performance parameters includes assigning a packet jitter
15 parameter.

1 6. (Previously Presented) The method of claim 5, wherein storing the
2 representations includes storing models of the plural components, the models capable of being
3 linked to create a representation of the communications system.

1 7. (Original) The method of claim 6, further comprising providing a graphical user
2 interface in which the models may be manipulated to create the representation of the
3 communications system.

1 8. (Previously Presented) A method of determining performance of a
2 communications system, comprising:

3 storing representations of plural components of the communications system, the
4 components including a first packet-based network and at least one network device;
5 assigning performance parameters for each of the components, the performance
6 parameters comprising at least a first performance parameter and a second performance
7 parameter;

8 combining the first performance parameters of respective components to derive an
9 overall first performance parameter;

10 combining the second performance parameters of respective components to derive
11 an overall second performance parameter; and

12 deriving a quality indication of the communications system based at least on the
13 overall first and second performance parameters,

14 wherein deriving the quality indication includes calculating an E-model quality
15 rating value.

1 9. (Previously Presented) The method of claim 5, further comprising combining the
2 representations of the plural components to create the communications system.

1 10. (Cancelled)

1 11. (Previously Presented) The apparatus of claim 35, wherein the second
2 performance parameters include packet delays.

1 12. (Original) The apparatus of claim 11, wherein the packet delay of each network
2 component is treated as an independent variable.

1 13. (Previously Presented) The apparatus of claim 12, wherein the controller
2 calculates an overall packet delay of the communications system by summing the packet delays
3 of the plural components, the overall second performance parameter comprising the overall
4 packet delay.

1 14. – 15. (Cancelled)

1 16. (Previously Presented) The apparatus of claim 35, wherein the representation of
2 the packet-based network includes a representation of a collection of links and routers.

1 17. (Previously Presented) The apparatus of claim 35, wherein the representation of
2 the packet-based network includes a representation of an Internet Protocol network.

1 18. (Previously Presented) The apparatus of claim 35, wherein the packet-based
2 network includes a public network, and wherein the storage device further contains a
3 representation of a local network.

1 19. (Previously Presented) An apparatus for determining performance of a
2 communications system, comprising:

3 a storage device containing representations of plural components of the
4 communications system, the plural components including a packet-based network and at least
5 one network device, each of the components being assigned one or more performance
6 parameters; and

7 a controller to calculate a predicted quality of the communications system based
8 on the one or more performance parameters, wherein the predicted quality comprises a value that
9 is representative of a subjective perceived quality of communications in the communications
10 system by a user,

11 wherein the performance parameters comprise at least first and second
12 performance parameters;

13 the controller to combine the first performance parameters of respective
14 components to derive an overall first performance parameter, and the controller to combine the
15 second performance parameters of respective components to derive an overall second
16 performance parameter, the controller to calculate the predicted quality based at least on the
17 overall first performance parameter and the overall second performance parameter,

18 wherein the storage device further contains a representation of a circuit-switched
19 device.

1 20. (Previously Presented) An article including one or more machine-readable
2 storage media containing instructions for modeling performance of a communications system,
3 the instructions when executed causing a controller to:
4 store models of plural components of the communications system, the plural
5 components including a packet-based network and at least one network device, the stored models
6 containing at least first performance parameters and second performance parameters associated
7 with respective components, wherein the first performance parameters include packet jitter
8 parameters;
9 combine the models to represent the communications system;
10 combine the packet jitter parameters of respective components to derive an
11 overall packet jitter parameter;
12 combine the second performance parameters of respective components to derive
13 an overall second performance parameter; and
14 determine a quality level of the communications system using at least the overall
15 packet jitter parameter and overall second performance parameter.

1 21. (Previously Presented) An article including one or more machine-readable
2 storage media containing instructions for modeling performance of a communications system,
3 the instructions when executed causing a controller to:

4 store models of plural components of the communications system, the plural
5 components including a packet-based network and at least one network device, the stored models
6 containing at least first performance parameters and second performance parameters associated
7 with respective components;

8 combine the models to represent the communications system;

9 combine the first performance parameters of respective components to derive an
10 overall first performance parameter;

11 combine the second performance parameters of respective components to derive
12 an overall second performance parameter; and

13 determine a quality level of the communications system using at least the overall
14 first performance parameter and overall second performance parameter,

15 wherein the instructions when executed cause the controller to derive an E-model
16 rating using the stored models.

1 22. (Cancelled)

1 23. (Original) The article of claim 20, wherein the performance parameters are
2 associated with communications of packets through the communications system.

1 24. (Previously Presented) The article of claim 23, wherein the second performance
2 parameters include at least one of a packet delay and packet loss.

1 25. (Cancelled)

1 26. (Previously Presented) The article of claim 20, wherein the second performance
2 parameters include at least one of a packet delay and packet loss.

1 27. – 28. (Cancelled)

1 29. (Currently Amended) A method of determining performance of a
2 communications system, comprising:
3 storing representations of plural components of the communications system, the
4 components including a first packet-based network and at least one network device;
5 assigning performance parameters for each of the components, the performance
6 parameters comprising at least a first performance parameter and a second performance
7 parameter;
8 combining the first performance parameters of respective components to derive an
9 overall first performance parameter;
10 combining the second performance parameters of respective components to derive
11 an overall second performance parameter; and
12 deriving a quality indication of the communications system based at least on the
13 overall first and second performance parameters,
14 wherein combining the first performance parameters comprises combining packet
15 delays of respective components to derive an overall packet delay, and wherein combining the
16 second performance parameters comprises combining packet losses of respective components to
17 derive an overall packet loss[.].
18 wherein the performance parameters further comprise packet jitter, the method
19 further comprising combining the packet jitters of respective components to derive an overall
20 packet jitter,
21 wherein deriving the quality indication is further based on the overall packet jitter.

1 30. (Previously Presented) A method of determining performance of a
2 communications system, comprising:

3 storing representations of plural components of the communications system, the
4 components including a first packet-based network and at least one network device;

5 assigning performance parameters for each of the components, the performance
6 parameters comprising at least a first performance parameter and a second performance
7 parameter;

8 combining the first performance parameters of respective components to derive an
9 overall first performance parameter;

10 combining the second performance parameters of respective components to derive
11 an overall second performance parameter;

12 deriving a quality indication of the communications system based at least on the
13 overall first and second performance parameters; and

14 assigning an audio CODEC type parameter to at least one of the components,
15 wherein deriving the quality indication is further based on the audio CODEC type
16 parameter.

1 31. (Currently Amended) The method of claim [[1]] 5, further comprising assigning
2 at least one of a signal loss parameter, echo parameter, and noise parameter to at least another
3 one of the components,

4 wherein deriving the quality indication is further based on the at least one of the
5 signal loss parameter, echo parameter, and noise parameter.

1 32. (Previously Presented) The method of claim 5, wherein deriving the quality
2 indication comprises deriving a mean opinion score (MOS).

1 33. (Previously Presented) The method of claim 5, wherein deriving the quality
2 indication comprises deriving a value that is representative of a subjective perceived quality of
3 communications in the communications system by a user.

1 34. (Previously Presented) An apparatus for determining performance of a
2 communications system, comprising:

3 a storage device containing representations of plural components of the
4 communications system, the plural components including a packet-based network and at least
5 one network device, each of the components being assigned one or more performance
6 parameters; and

7 a controller to calculate a predicted quality of the communications system based
8 on the one or more performance parameters, wherein the predicted quality comprises a value that
9 is representative of a subjective perceived quality of communications in the communications
10 system by a user,

11 wherein the performance parameters comprise at least first and second
12 performance parameters;

13 the controller to combine the first performance parameters of respective
14 components to derive an overall first performance parameter, and the controller to combine the
15 second performance parameters of respective components to derive an overall second
16 performance parameter, the controller to calculate the predicted quality based at least on the
17 overall first performance parameter and the overall second performance parameter,

18 wherein the value comprises an E-model quality rating value.

1 35. (Previously Presented) An apparatus for determining performance of a
2 communications system, comprising:

3 a storage device containing representations of plural components of the
4 communications system, the plural components including a packet-based network and at least
5 one network device, each of the components being assigned one or more performance
6 parameters; and

7 a controller to calculate a predicted quality of the communications system based
8 on the one or more performance parameters, wherein the predicted quality comprises a value that
9 is representative of a subjective perceived quality of communications in the communications
10 system by a user,

11 wherein the performance parameters comprise at least first and second
12 performance parameters;

13 the controller to combine the first performance parameters of respective
14 components to derive an overall first performance parameter, and the controller to combine the
15 second performance parameters of respective components to derive an overall second
16 performance parameter, the controller to calculate the predicted quality based at least on the
17 overall first performance parameter and the overall second performance parameter, wherein the
18 first performance parameters comprise packet jitter parameters.

1 36. (Previously Presented) The article of claim 20, wherein the quality level
2 comprises a mean opinion score (MOS).

1 37. (Cancelled)